

ABSTRACT OF THE DISCLOSURE

An electrochemical device comprising at least one substrate (1,7), at least one electroconductive layer (2,6) at least one electrochemically active layer (3,5) capable of 5 reversibly injecting ions, and an electrolyte (4), wherein the electrolyte (4) is a layer or a multilayer stack comprising at least one layer (4b) made of an ionically conductive material capable of reversibly injecting said ions but whose overall degree of oxidation is maintained essentially constant.